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Book Reviews

M. REDHEAD, *Incompleteness, Nonlocality and Realism*, Clarendon, 1989, 191 pp.

It is hard to conceive of a more accomplished example of *Desperationsphilosophie* than the so-called philosophy of quantum mechanics. Born out of a double misunderstanding (first, that logic has much to do with Boolean algebra, and second, that a natural generalization of Boolean algebra is the notion of a modular lattice) and developed with no lack of ill-concealed inferiority complexes by a plethora of flunkies (whose provenance was either the slums of mathematics or the slums of analytic philosophy), it succeeded in producing thousands of vacuous papers, and in confirming in the mathematical community the worst suspicions about philosophers. The death stroke of such soi-disant philosophy came when it was conclusively proved that the quantum-mechanical analogs of random variables, unlike their classical analogs, cannot be described starting from any lattice-theoretic structure of underlying "events". This put a stop to the *Schwärmerei*, we hope a permanent one.

But it did leave the field open for some honest philosophy of quantum mechanics, at the same level of honesty as, say, the philosophy of statistics (of which we would like to see more) or the philosophy of relativity (of which we would like to see less). This book has the courage to pick up the pieces; beginning with the realization (a bullet that philosophers have yet to bite) that it is impossible to do any reasonable philosophy of quantum mechanics without having seriously studied quantum mechanics, and without doing some substantial formula-dropping in the text, the kind philosophers are not trained to follow, let alone understand.

Too bad this excellent book cannot be read by any of our "philosophers of science," who have to retreat in their analytic lucubrations, secretly fearing that their abysmal ignorance will not be found out beyond the narrow confines of their constipated analytic departments.

H. GONSHOR, *An Introduction to the Theory of Surreal Numbers*, Cambridge Univ. Press, 1986, 192 pp.

Surreal numbers are yet another invention of Conway, the great inventor of great new ideas. This presentation, less comprehensive but more detailed than Conway's or Knuth's, can be read by any undergraduate. How long will it take the bigots of mathematics to realize that the mathematics of the future will not be able to do without surreal numbers?

V. F. KOLCHIN, *Random Mappings*, Optimization Software, 1986, 203 pp.

Unbeknownst to most people who deal with permutations in one way or another, a theory of random permutations has been quietly creeping out into the open, to the point of no longer being able to be ignored. The results are more beautiful than our pessimistic group-theorists expected, and one hopes that the wealth of asymptoticity will be followed by a concomitant wealth of underlying "structures" on which one computes directly, just as (in invariance principles) one computes directly with Brownian motion instead of taking asymptotics of random walks.

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